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ABSTRACT

The purpose of this study was to obtain quantitative nonevaluative data about verbal behavior used by instructor and students in the foreign language classroom. Two beginner and two intermediate German classes were tape-recorded for two weeks, then coded according to patterns. Frequencies of various verbal behavior patterns were analyzed. A reduction process was applied, resulting in patterns which were the basis for further analysis. The main conclusion is that instructor and student classroom utterances can be called "verbal behavior" because they can be grouped into recurring patterns, the basic pattern being the initiate-respond-evaluate cycle. Observation categories and results of the statistical analyses are appended. (AM)

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VERBAL BEHAVIOR IN FOREIGN LANGUAGE INSTRUCTION

1.0 Purpose

The purpose of this study was to obtain quantitative, non-judgmental data about the types of verbal behavior used by an instructor and the students in FL teaching/learning and to study systematicities of recurrence.

For several years similar research has been carried out in other fields with the help of a number of observation instruments (See, for example, the more than 100 different observation systems in Simon & Boyer, 1967, and Simon & Boyer, 1970). In the field of FL teaching, Moskowitz (1968) has pioneered the use of analysis of classroom interaction by means of an observation system that was modeled after the one devised by Flanders (1966). Since that time other researchers have carried out conceptual and experimental research in the field of quantifying verbal and non-verbal interaction in the FL classroom (Nearhoof, 1969; McArdle & Scebold, 1968; Wragg, 1970; Rothfarb, 1970; Moskowitz, 1971).

243

While much of that research has been concerned with its pragmatic use in the training and supervision of teachers, the present study intends to provide a detailed descriptive analysis of verbal behavior in small cross-sections of FL classrooms. Given further more broadly based descriptive results, conceptual and experimental research could focus on the relative efficiency and effectiveness

factors of the various dominant verbal behavior patterns in relation to specific behavioral objectives.

Because of the relative complexity of the observation instrument developed for this study, it is less appropriate than others for immediate data feedback to the observed classroom teacher; it was designed to be a tool for conducting research on the substantive and substantive-logical characteristics of FL verbal behavior.

2.0 Procedure

2.1 Subjects and Data Gathering

Two classes each of Beginners' and Intermediate German at the University of Alberta were selected by the investigator:

Instructor	Level	Sex	Teaching experience	Class size	Number of class samples	Textbook
B1	Beginners	M	none, concurrently enrolled in methods course	14	6	audio-lingual
B2= investigator	Beginners	M	9 years	13	6	audio-lingual
I1	Intermediates	F	10 years	12	10	cultural reader, grammar review
I2	Intermediates	M	none, concurrently enrolled in methods course	11	9	cultural reader, grammar review

The Beginners' classes had, at that time in the course, a primarily oral objective which was supposed to be reached by a modified audio-lingual approach, i.e. while all behavioral procedures were based on the assumptions of audio-lingual teaching, instructors also insisted on cognitive awareness of the underlying structural rules. Although the Intermediates' learning objectives were, at that time in the year, still strongly oral there was an increasing emphasis on reading, writing, comprehension, and discussion of texts in an intermediate reader.

Both Beginners and Intermediate classes met five times a week; all non-language laboratory periods were tape-recorded for a period of two weeks between November 22 and December 3, 1971. Students and instructors knew that the classes were taped, but were not aware of the intent of the study; they were given assurance that none of the material gathered would be used for evaluative purposes of either instructor or students. At the end of the two-week period the recorded verbal behavior was coded by an assistant (who was trained by the investigator in the philosophy and use of interaction analysis, and specifically, of this instrument) by means of the observation instrument described below.

Except for some basic descriptive statistics, no other tests were applied, as the intent of the study was not of an experimental, "significant-differences" nature. Because of its exploratory character and the obvious concomitant limitations,

no claim can (or was intended to be) made that the obtained verbal behavior patterns and their relative frequencies of occurrence are, in fact, representative of the FL interaction process. What is claimed is that the observation instrument characterizes accurately, non-evaluatively and by quantification, the verbal behavior occurring in the observed classrooms. More sweeping generalizations can, of course, only be derived from further, more comprehensive research.

2.2 Instrumentation

The foreign language interaction was conceptualized by the investigator along the lines of the language game model (Hyman, 1968; Bellack & Davitz, 1968; Smith & Meux, 1968), in which verbal transactions cyclically follow certain rules.

It is suggested that one of the players in the game (i.e. the instructor, or, on occasion, a student) initiates a move to which one of the other players is expected to respond; this response may be further clarified by the same or another participant; subsequently, the response sequence may be positively or negatively evaluated by one of the participants; additional response clarification and evaluation may follow the first response module. Thus

$$\text{Initiator}/R_1\text{-}R_2 \ldots R_i/Ev_1/R_1\text{-}R_2 \ldots R_j/Ev_2/ \ldots$$

primary response module

so that the verbal behavior module $R_m Ev_n$ may occur p times as response behavior to one initiating move. A new cycle is started with the next initiating move.

It was expected that recurring patterns could be abstracted from the resulting string of verbal behavior, and frequency counts of the various patterns would then give clues as to characteristic verbal behavior dominant in a given FL classroom.

As the investigator was interested in the sequence of verbal behaviors it was decided not to use the approach originated by Flanders, in which pairs of subsequent codes are alternately recorded in the rows and columns of a matrix (Flanders 1966, p.23), as in such a matrix sequence information is only available with regard to two contiguous codes, but not to the entire string (Prokop, 1969). With the aid of a computer program specially written for this purpose initiating codes were taken as the first pattern elements followed by all response and evaluation codes up to the next initiating code. Some patterns had to be analyzed by visual inspection; when, for example, two initiating codes occurred side by side, it had to be decided which of them was really the initiator of the subsequent response/evaluation string. Also, it became apparent that more than one response cycle could be dependent on one initiating move (when the initiator was not explicitly verbalized); in such a case the initiating code had to be supplied. Subsequently, frequency counts of identical pattern strings were performed.

In contrast with other observation instruments, duration of a verbal behavior was considered immaterial for the present purpose as the investigation was only concerned with types of patterns. Consequently, one code only was used even if there was more than one "sentence", as long as all of them were functionally identical. Thus one code may stand for either a one-second or three-minute verbal behavior segment.

The basic numerical categories used are based on Flanders (1966), however, some were rearranged or redefined; in addition, suffixes and prefixes specifically suited for the FL situation were devised.

Numerical categories ranged from 1 through 9 (See Table 1) and describe the general verbal behavior used by instructors and students. Prefixes were either G or E for the language used with a given verbal behavior. The primary suffixes refer to the type of FL activity, ranging from simple content to complex activity. The supplementary suffixes (Z, A) indicate choral response or response alternation, respectively, where the initiating move was stated explicitly only once. For example,

G6R - G7RZ - G7R - G7RA

indicates that students followed the instructor's reading of a text or of exercises in German (G6R) with choral reading (G7RZ), after which one student read by himself (G7R) and another student continued subsequently. (G7RA).

Numerical codes without suffixes were used to describe verbal behavior of a general nature, not specifically related to

the teaching/learning of a FL, e.g. G1 refers to praise not related to any specific type of content or activity; or E4 refers to the instructor's asking, for example, a procedural question about home work. These codes were not used in the analysis of the string into patterns. For basic frequency statistics, prefixes and secondary suffixes were retained, but were ignored in the collection of actual patterns of verbal behavior. (See Appendix A for detailed verbal descriptions of observation categories).

Table 1. -- Verbal behavior categories and their primary and supplementary suffixes[1]

	Intonation	Pronunciation	Structure	Meaning	Spelling	(Cultural) Content	Translation of word, phrase or sentence	Reading a dialog, text or exercises	Writing	Prepared oral presentation	Unprepared oral presentation	Repetition and imitation	General procedure	Supplementary suffix: response alternation	Supplementary suffix: choral response
Positive feedback													1		
Negative feedback	2I	2P	2S	2M	2L	2C	2T						2		
Directions	3I	3P	3S	3M	3L	3C	3T	3R	3W	3Q	3U	3E	3		
Questions	4I	4P	4S	4M	4L	4C	4T						4		
Instructor response	5I	5P	5S	5M	5L	5C	5T					5E	5		
Initiation of information by instructor	6I	6P	6S	6M	6L	6C	6T	6R			6U		6		
Predictable student response	7I	7P	7S	7M	7L	7C		7R		7Q	7U	7E	7	A	Z
Unpredictable student response	8I	8P	8S	8M	8L	8C	8T				8U		8	A	
Initiation of information by students	9I	9P	9S	9M	9L	9C	9T					9E	9		

[1]For a verbal description of the categories and examples of difficult combinations see Appendix A. No hierarchical order is intended in the sequencing of the primary suffixes.

3.0 Results

3.1 Frequencies of verbal behaviors

Although duration of verbal behavior moves was not a concern in this study, their observed frequencies allow for some inferences as to the amount of interaction in a given class. Table 2 indicates a marked difference between frequencies of verbal behaviors in the Beginners' and Intermediate classes, viz. an average of 538.5 moves versus 360.9 moves per 50-minute period. However, as the standard deviations show, there were large differences in frequencies in the individual classes of each instructor. It can be concluded that verbal interaction between instructor and students was more frequent and, consequently, shorter in the Beginners' classes than in Intermediate classes and that frequency of interaction varied considerably from class to class within and across instructors.

Table 2.-- Distribution of verbal behaviors

Instructor	Total number of codes	Number of periods observed	Mean	Standard deviation
B1	2695	6	449.1	84.1
B2	3767	6	627.8	144.6
I1	3553	10	355.3	118.7
I2	3304	9	367.1	62.6

3.2 Frequencies of supplementary prefixes and suffixes

Use of German and English: Table 3 shows that 68.61% (B1) and 82.00% (B2) of the verbal behaviors observed in the Beginners' classes occurred

in German, while the corresponding percentages were 84.94% (I1) and 63.14% (I2) in the Intermediate classes. It can be concluded that the instructors who had previous teaching experience used German more extensively than did instructors with no teaching experience.

Use of response alternation: The two experienced instructors encouraged greater use of alternate responses to the same implicit initiating move (9.80% for B2 and 6.39% for I1, as compared to 1.89% for B1 and .67% for I2). The former apparently increased frequency of interaction by setting up verbal behavior cycles in which the same initiator elicited a response from several students.

Use of choral response: Choral responses were limited to Beginners' classes where the percentages ranged from 8.55% for B2 to 12.36% for B1.

Table 3.--Distribution of supplementary prefixes and suffixes

Instructor	Prefix		Supplementary suffix		
	G	E	A	Z	Ø
B1	68.61%	31.39%	1.89%	12.36%	85.75%
B2	82.00%	18.00%	9.80%	8.55%	81.65%
I1	84.94%	15.06%	6.39%	0	93.61%
I2	63.14%	36.86%	.67%	0	99.33%

3.3 Verbal behavior profiles

In order to obtain the most characteristic verbal behaviors, frequencies in descending order of magnitude were cumulated up to an

arbitrarily selected cut-off point of two-thirds of the total number of verbal behaviors.

3.31 For all B1 classes (See Appendix B, Table 1)

The most frequent verbal behaviors in descending order of magnitude (66.76%) which were found in B1's classes were as follows:

> The instructor read text or exercises, and the students read after him; he translated what he initiated; he praised and encouraged the students; the students engaged in oral practice involving manipulation of structures; he criticized their grammatical control; he gave grammatical explanations as responses; and the students repeated after the instructor.

3.32 For all B2 classes (See Appendix B, Table 2)

The following verbal behaviors accounted for at least two thirds of the total (viz. 66.98%):

> The students read text or exercises; the instructor praised the students' performances; the instructor read text or exercises; the students repeated after him; the students gave predictable responses to questions about (cultural) content; the instructor criticized the students' grammatical control; he asked content questions; and he gave grammatical explanations as responses.

3.33 For all I1 classes (See Appendix B, Table 3)

The following verbal behaviors accounted for 67.20% of the total number:

> The instructor praised students' responses; the students engaged in oral grammatical practice; the instructor asked content questions to which the students responded unpredictably; the instructor gave cultural explanations as responses; she also gave grammatical explanations as responses, and directed students to manipulate the elements of an utterance.

3.34 For all I2 classes (See Appendix B, Table 4)

These verbal behaviors accounted for 66.77% of the total number observed:

The instructor praised the students' responses; the students translated; he asked content questions and received unpredictable responses; he asked for translations; the students responded predictably to questions about grammar; he gave cultural explanations as responses; the students read text or exercises; the instructor criticized the students pronunciation; he asked grammatical questions; the students repeated after him; he criticized their mastery of grammar.

3.35 For all Beginners' classes (See Appendix B, Table 5)

The following verbal behaviors, in descending order of magnitude, accounted for 67.75% of the total observed:

The instructors read text or exercises; the students read after them; the instructors praised the students' responses; the instructors criticized grammatical control and translated as responses; the students gave predictable responses to content questions; the instructors gave grammatical explanations as responses; the students engaged in oral practice involving manipulation of elements.

3.36 For all Intermediate classes (See Appendix B, Table 6)

66.97% of the total number of verbal behaviors observed in the Intermediate classes are accounted for by these verbal behaviors:

The instructors praised the students' responses; they asked content questions to which they received unpredictable answers; the students engaged in oral grammatical practice; students translated; the instructors gave cultural explanations; the instructors asked for translations; they gave grammatical explanations as responses; they criticized grammatical structures; students gave predictable responses with regard to grammatical knowledge.

3.37 For all FL classes (See Appendix B, Table 7)

The following verbal behaviors[a] accounted for 69.15% of the total observed:

The instructors praised student responses; the students read the text or exercises; the instructors read; the instructors asked content questions; the students gave unprepared oral presentations involving manipulations of structures; the students gave unpredictable answers to content questions; the students translated; the instructors criticized grammar; the students repeated; the instructors gave cultural explanations as responses; they translated and gave grammatical explanations as responses.

In the above characterizations only one verbal behavior occurred in all four groups of classes, viz. praise, while five verbal behaviors (viz. 6R, 7R, 2S, 5S, 7E) occurred in both Beginning classes; and three in the Intermediate classes (4C, 8C, 5C). For the various classes, these verbal behaviors accounted for 56.29%, 55.83%, 49.76% and 34.99%, respectively, of the total, which indicates a somewhat higher similarity of verbal behavior types in the two Beginning classes when compared to the Intermediates.

The verbal behaviors 1, 2S, 5S and 7U were common to both levels, accounting for 21.58% of all verbal behaviors on the Beginners' level vs. 31.62% of verbal behaviors on the Intermediate level.

It may be concluded that some types of verbal behavior occurred characteristically in both classes on each of the two levels, viz. slightly more than half of the verbal behavior in Beginners' classes and somewhat less than half of the Intermediates' verbal behavior was characteristically frequent with both instructors on each of the levels, respectively. Verbal behavior judged characteristic of both levels at the same time accounted for about 22% and 32% respectively for Beginners and Intermediates, which means that verbal interaction is, to a large extent, of different nature and structure on the two levels of language learning.

3.4 Frequencies of five general types of verbal behavior

In the overall structural breakdown of verbal behavior patterns (See p. 3) the Intermediate classes resembled one another more closely than did the Beginning classes (See Table 4). B1 initiated more often, gave more responses and evaluated less frequently than did B2, while his

students initiated about the same number of times, but gave fewer reflexive responses.

Furthermore, student verbal behavior showed about the same frequency for all classes (approximately one third of all occurrences) except for B2 where it accounted for 45% of all occurrences. It appears that - whatever the individual magnitudes - initiatory moves launched by students and instructor plus the instructor's evaluative moves account for roughly one half of all verbal behavior, while response moves by instructors and students account for the other half.

Table 4.--Distribution of initiatory, response and evaluative moves

Instructor	Initiatory moves by		Response moves by		Evaluative moves by
	Instructor	Students	Instructor	Students	Instructor
B1	38.40	3.12	18.55	27.46	12.46
B2	27.77	2.68	4.96	42.66	21.93
I1	23.81	2.56	15.14	30.79	27.69
I2	28.63	4.81	11.99	30.66	23.91

3.5 Frequencies of occurrence of verbal behavior content

As Table 5 shows, only two types of verbal behavior content characterize most markedly the difference between Beginners and Intermediate classes, viz. (cultural) content was about three times as high in concern at the Intermediate level when compared to Beginners, while reading of text and exercises was approximately ten times as frequent in Beginning classes than in Intermediate classes.

Table 5. -- Distribution of verbal behavior content

Instructor	Suffix									
	P	S	M	L	C	T	R	Q	U	E
B1	2.19	10.39	3.93	.37	1.71	16.03	42.45	.37	7.42	5.30
B2	2.63	16.83	3.00	.05	13.64	6.34	28.30	2.55	2.89	9.26
I1	.87	9.40	4.84	.37	30.65	7.66	1.94	.28	17.45	.70
I2	4.00	13.98	3.75	.12	22.06	20.82	5.42	.00	4.03	3.30

3.6 Sequential and non-sequential patterns of verbal behavior

After coding verbal behaviors and eliminating some codes (See p. 3ff.) the frequencies of the various patterns of verbal behavior were established with supplementary prefixes and suffixes still intact.

Table 6, Column A, shows the total numbers of patterns, of different patterns, and the ratios between the two for the four instructors. The total number of patterns ranged from 996 for I2 to 1519 for B2, while there was a low of 171 different patterns for B2 and a high of 268 for I2. The ratios indicating the mean numbers of identical patterns ranged from a low of 3.72 identical patterns for I2 to a high of 8.88 identical patterns for B2; this would indicate that instructor I2 had a greater variety of verbal behavior patterns than did all the other instructors.

Up to this point the analysis has produced large numbers of "different" patterns of verbal behavior where each unique pattern sequence occurred, on the average, only five times over the entire observation period; this result is due to the large number of possible combinations of prefixes and suffixes. Some verbal behavior patterns, however, differed only by, for example, the FL prefix in praise

(G4C-G7C-G1 vs. G4C-G7C-E1: instructor asks a content question, receives a predictable student response, and counters with praise in English or German). The basis character of the pattern was the same, only the language of one part of the communication was different.

Or to give another example: 4C-7C, 4C-7C-1, 4C-7C-2C have the same common communication core 4C-7C. A 4C-8C initiator-response sequence (instructor asks content question and gets unpredictable response) could have been followed by any of the above three (or any other) evaluative moves. They were therefore considered to be of pattern-non-distinctive nature, and the above sequences were represented as

4C	7C 8C	0 1 2C

which means that 4C can be followed by either 7C or 8C, which, in turn, can be followed by either 0, 1 or 2C.

Some patterns occurred only once or twice in the total observation period; in order to arrive at frequent, representative verbal behavior patterns these patterns will be eliminated from consideration.

Each of these three simplification processes was intended to reduce the total number of <u>essentially</u> differing patterns; in the following, the three steps in the reduction process will be described. Table 6 shows that the average number of "different" patterns after reduction increased from about 5 to about 25.

<u>3.61 Reduction: Step One</u>

As the language of instruction, the frequency of response alternation and choral response frequencies were of only secondary interest, the effect of supplementary prefixes and suffixes was removed; this

Table 6.--Reduction from sequential to non-sequential patterns

Instructor	Sequential patterns[1]						Non-sequential patterns[2]					
	Original patterns[3] (A)			Reduction: Step 1[4] (B)			Reduction: Step 2[5] (C)			Reduction: Step 3[6] (D)		
	a[7]	b[8]	c[9]	a	b	c	a	b	c	a	b	c
B1	1023	178	5.75	1023	142	7.20	1023	50	20.46	989	32	30.91
B2	1519	171	8.88	1519	137	11.09	1519	62	24.50	1494	45	33.20
I1	1185	210	5.64	1185	162	7.31	1185	62	19.11	1142	47	24.30
I2	996	268	3.72	996	192	5.19	996	74	13.46	972	59	16.47

[1] In these patterns the original sequence of verbal behaviors is preserved.

[2] In these patterns the original sequence of verbal behaviors is not available anymore.

[3] Supplementary prefixes and suffixes are retained.

[4] Supplementary prefixes and suffixes are removed.

[5] All patterns reduced to the non-sequential paradigm.

[6] All patterns except those in which the initiator accounted for less than one percent of the total number of the instructor's initiating behaviors.

[7] Total number of patterns.

[8] Number of different patterns.

[9] Ratio between the total number of patterns and the number of different patterns (pattern identity ratio).

procedure resulted in smaller total numbers of different patterns, which now ranged between a low of 137 for B2 to a high of 192 for I1. The numbers in Table 6, Column B represent the actual frequencies of different patterns used by the four instructors in all their classes. (See Appendix B, Table 8 for illustration of a complete set of verbal behavior patterns). It can be concluded that instructors in the Intermediate classes used more different patterns of verbal behavior than did their colleagues in the Beginning classes. Furthermore, they used the same patterns again less frequently than did the Beginning classes, but both experienced instructors used the same patterns more often than did their unexperienced counterparts.

Some of the patterns occurred only in one class, while others were found with all four instructors. In spite of this overlap of pattern occurrence there was a total of 413 different patterns for all classes when taken together. From a frequency count of the patterns of filled slots in the two response modules (See Table 7) the following conclusions were drawn: Responses to the initiator with (X/X-X/---) or without (X/X--/---) subsequent evaluation were shown to be the most frequent patterns of verbal behavior with about 40% of the total number of pattern occurrences each; responses with evaluation and subsequent elaborative responses (X/X-X/X--) accounted for an additional eleven percent, and the other four patterns made up the remaining ten percent.

There were marked differences in distribution between the two levels of FL instruction, viz. the initiator-first response pattern (X/X--/---/) was more than twice as frequent in Beginning classes

Table 7.--Distribution of verbal behavior over seven types of patterns

Pattern type	B1	B2	I1	I2	B1+B2	I1+I2	Total
X/X--/---/	67.97%	49.09%	20.34%	29.55%	56.64%	24.50%	42.11%
X/X-X/---/	17.88%	39.02%	53.43%	47.84%	30.58%	50.90%	39.77%
X/XX-/---/	7.58%	2.35%	3.93%	5.30%	4.44%	4.55%	4.49%
X/XXX/---/	.21%	0.00%	.27%	.87%	.07%	.54%	.29%
X/X-X/X--/	4.34%	7.59%	21.14%	12.12%	6.29%	17.07%	11.16%
X/X-X/X-X/	2.02%	1.81%	.53%	4.11%	1.90%	2.15%	2.01%
X/X-X/XX-/	0.00%	.14%	.36%	.21%	.08%	.29%	.17%

than in Intermediate classes; on the other hand, initiator-first response-evaluation patterns (X/X-X/---) were almost twice as frequent in Intermediate classes, and the Initiator-first primary response-evaluation-first secondary response pattern (X/X-X/X--/) was more than twice as frequent in these classes when compared to Beginning classes.

When prefixes and suffixes were removed from all original patterns in an investigation of frequencies of general types of verbal behavior patterns the following results were obtained (Table 8):

Predictable and unpredictable student response followed by positive or negative evaluation (viz. patterns -701*, -702, -801, -802) accounted for 51.80% of all primary response patterns, and predictable and unpredictable student response without such evaluation (viz. -700, -800 patterns) accounted for another 27.06%. The remaining 21.14% were spread out over another 26 verbal behavior pattern types. Instructor elaboration of student responses (-750, -850, -751, -752, -852) accounted for only three percent of all patterns, while instructor-response to instructor-initiation (viz. -500, -501, -502, -550, -551, -570, -581, -582) occurred in about 10% of the cases; there was no instance of student response to a move initiated by a student.

In the secondary response module, instructor-response (-500) to the first module accounted for 49.25% of all patterns; students' responses with or without subsequent evaluation (-700, -800; -701, -702, -801, -802) accounted for 26.61% and 13.99%, respectively.

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* -701 symbolizes the verbal behavior categories in the response module: students responded predictably to an initiator (7); no no secondary response (0); instructor evaluated by praise.

Table 8.--Frequency distributions of verbal behavior patterns without prefixes or suffixes over the two response modules.

Initiator	Response 1	Response 2	Evaluation	Response modules: Primary module Pattern	Primary module Frequ. (N=4723)	Secondary module Pattern	Secondary module Frequ. (N=630)
I[1]	I	Ø[3]	Ø	-5ØØ	8.71%	-5ØØ	49.25%
			I	-5Ø1,5Ø2	.11%	-5Ø1,5Ø2	2.75%
		I	Ø	-55Ø	1.24%	-55Ø	3.57%
			I	-551	.03%		
		S[2]	Ø	-57Ø	.03%	-57Ø	.27%
			I	-581,582	.18%		
	S	Ø	Ø	-7ØØ,8ØØ	27.06%	-7ØØ,8ØØ	26.61%
			I	-7Ø1,7Ø2,8Ø1,8Ø2	51.80%	-7Ø1,7Ø2,8Ø1,8Ø2	13.99%
		I	Ø	-75Ø,85Ø	2.89%	-75Ø,85Ø	1.79%
			I	-751,752,851	.33%		
		S	Ø	-77Ø,78Ø	.09%	-78Ø	.14%
			I	-781,782,881	.42%		
S	I	Ø	Ø	-5ØØ	5.20%	-5ØØ	1.23%
			I	-5Ø1,5Ø2	1.04%	-5Ø1	.27%
		I	Ø	-55Ø	.51%	-55Ø	.13%
			I	-551	.09%		
		S	Ø	-58Ø	.07%		
			I	-571,581	.20%		

[1] I = Instructor

[2] S = Student

[3] Ø = no response or evaluation

The remaining 10.15% were spread over another ten verbal behavior types. Instructors apparently preferred to provide more elaboration after evaluation or after student responses, or had the students repeat or correct their primary responses. Yet it must be noted that only 13.34% of primary response modules were followed by a secondary module at all, indicating a preference for quick transactional sequences.

As work with 413 patterns (in which some differed only by a suffix, e.g. 2P instead of 2S) proved to be unwieldy, and as no systematic predictive sequentiality of significance between two contiguous verbal behaviors could be discerned (for example, code 7 and its various suffixes were followed by practically all evaluative combinations) it was decided to reduce the number of patterns by collapsing them in Step 2.

3.62 Reduction: Step Two

In this step the frequencies of verbal behavior types in the various response and evaluation slots were entered only once, and the greatest number of different codes in one of the slots was taken as the number of different patterns. For example:

4C-5C
4C-7C-1
4C-7C-2C
4C-7C
4C-8C-2M
4C-8C-1
4C-8C-2C

was represented as

4C (7)	5C (1) 7C (3) 8C (3)	Ø (2) 1 (2) 2C(2) 2M(1)

Thus the above 7 patterns are now to be counted as four different patterns; this should be interpreted as meaning that 5C, 7C or 8C (which are all preceded by 4C) can either be followed by no evaluation (Ø), praise (1), criticism of content expressed (2C) or criticism of meaning expressed (2M).

It is important to note that the original sequentiality of patterns is lost at this point. This procedure was followed in order to allow for maximum generality in the number of different patterns, as it is conceivable that 7C, for instance, could also be followed by 2M (See also Appendix B, Table 8 for an actual illustration.)

Reduction to non-sequential patterns (Table 6, Column C) further reduced the total number of different patterns to a low of 50 for B1 and a high of 74 for I2.

3.63 Reduction: Step Three

In an effort to eliminate atypical patterns the third step in the reduction process involved discarding all patterns in which the initiator accounted for less than 1% of the instructor's total number of initiators. Although this procedure decreased the total number of patterns under consideration by not more than an average of 3%, the number of different patterns was reduced by an average of 26% to a maximum of 59 for I2 and a minimum of 32 (B1) different non-sequential patterns (Table 6, Column D). These non-sequential patterns are the basis for further analysis.

3.7 Distribution of non-initiatory verbal behavior over the various slots in the cycle

Table 9 presents the distribution of non-initiatory verbal behavior over the response and evaluation slots. The utilization factor of non-initiatory behavior in the reduced non-sequential patterns was more than 90% with all instructors, which indicates that they were highly representative of the classroom behavior observed.

As the Table shows, non-initiatory verbal behavior was similarly distributed over the two sets of response modules in the four classes. The majority of these utterances occurred as first responses to the initiator and were followed, in turn, by only a small number of second responses. Evaluation behaviors accounted for between 17.39% and 35.64% of all non-initiatory codes. Subsequent secondary response behaviors dropped to an average of approximately 8%, and the second response in the secondary response module was close to zero; secondary evaluation accounted also for not more than about two percent of the total number of non-initiatory verbal behaviors.

It can be concluded that the first response to an initiator and the first evaluation account together for about 85% of all response and evaluation behavior, although it must be noted that Beginners' classes shifted even more towards primary responses and away from the secondary response module than did Intermediates. By the end of the first response module approximately 92% of Beginners' verbal behavior is accounted for, while the corresponding percentage

Table 9.--Distribution of verbal behaviors over the two response modules.

Instructor	Primary response module			Secondary response module		
	Response 1	Response 2	Evaluation	Response 1	Response 2	Evaluation
B1 (Utilization = 91.68%)[1]	69.05	5.94	17.39	5.52	.28	1.82
B2 (Utilization = 93.93%)	60.70	1.67	29.91	6.34	.24	1.14
I1 (Utilization = 91.81%)	48.29	2.20	35.64	12.26	.93	.68
I2 (Utilization = 90.23%)	51.08	3.99	30.74	10.46	.63	3.10

[1] The utilization ratio is determined as the number of non-initiatory codes used over the total number of available non-initiatory codes (excluding general non-suffixed codes).

is 86% in Intermediate classes.

3.8 Analysis of verbal behaviors in the various response and evaluation slots

In the following, the types and frequencies of verbal behavior in the various response and evaluation slots (except for the first primary response;see 3.9) will be analyzed.

3.81 Second primary response (See Table 10):

As was pointed out before, the second response in the first module amounted to no more than 6% of the total number of non-initiatory responses, with little difference between the two levels. Frequencies of the various types of response verbal behavior were very similar for the various instructors and the two levels, with the possible exception of the relative predominance of cultural explanations as instructor-response on the Intermediate level.

Therefore, in spite of the variety of 11 response behaviors, it must be concluded that their distribution over the four classes was essentially the same; cultural, grammatical and meaning explanations dominated both levels at that point.

3.82 First Evaluation

The most obvious difference in evaluative verbal behaviors between the two levels can be found in the frequency of verbal feedback to responses (Table 11). B1 gave feedback to only about 25% of the responses, B2 to about half, I1 to about 74% and I1 to about 60%; that means that instructors in Beginners classes gave feedback to 4 in 10 responses, while Intermediate instructors did so in about 7 of 10. This figure is, however, deceptive insofar

Table 10.--Distribution of second primary responses.

Instructor	Second primary response											
	Ø	5C	5E	5M	5P	5S	5T	7E	7M	8C	8S	8T
B1 (N=989)	91.40	1.62	.81	2.33	.10	1.72	1.92	.10				
B2 (N=1494)	97.26	.40		.33		1.74	.13		.07			.07
I1 (N=1142)	95.45	2.36		.53		.96	.61			.09		
I2 (N=972)	92.18	3.71		1.24	1.10	.51	.83	.10		.51	.10	.72
B1+B2 (N=2483)	94.93	.89	.32	1.12	.04	1.73	.85	.04	.04			.04
I1+I2 (N=2114)	93.94	2.98		.85	.05	.76	.71	.05		.28	.05	.33
Total (N=4597)	94.48	1.86	.17	1.00	.04	1.29	.78	.04	.02	.13	.02	.17

Table 11.--Distribution of first evaluations.

Instructor	First evaluations							
	Ø	Ø[1]	1	2C	2M	2P	2S	2T
B1	74.82	42.67	12.13		.51	4.25	8.19	.10
B2	50.74	50.07	29.38	.60	.47	6.22	12.52	.07
I1	26.18	20.40	61.56	.88	1.14	1.31	8.23	.70
I2	39.82	35.49	38.58	.62	1.13	8.85	8.02	2.98
B1+B2	60.33	47.12	22.52	.36	.48	5.44	10.79	.08
I1+I2	32.45	27.34	50.98	.76	1.14	4.78	8.14	1.75
Total	47.52	38.02	35.61	.54	.78	5.13	9.57	.85

[1] Zero-evaluation figures adjusted for the occurrence of instructor-initiated cycles in which the instructor responds to himself and to which no evaluation is logically possible. Rows total only 100% when this figure is left out.

as it is distorted by the occurrences of instructor-response to instructor-initiation (See Table 15) to which feedback is not logically possible; if the zeroes are adjusted for these frequencies it becomes apparent that Beginners' instructors gave verbal feedback to about half the responses and Intermediate instructors to about 70% of the responses.

The two levels also differed with regard to positive verbal feedback; B1 and B2 praised about 20% of the responses while the equivalent percentage was about 50% in Intermediate classes.

Negative feedback was about the same for the two levels in both amount and distribution of different categories. About 17% of the responses were criticized by the instructors with regard to various criteria.

3.83 First secondary response: (See Table 12)

As was pointed out above, Intermediate classes tended to have secondary responses after an evaluation somewhat more often than did the Beginners' classes. The most marked difference between the two levels can be observed with the relative predominance of cultural meaning and structural explanations as instructor-response in the Intermediate classes, and the equivalent phenomenon with students' repetition after evaluation in the Beginners' classes. Otherwise occurrences were small and were distributed similarly over the remaining categories.

3.84 Second secondary response: (See Table 13)

There were very few responses in this category; the approximately one per cent of all occurrences on this slot were distributed similarly over seven categories for the two levels.

Table 12.--Distribution of first secondary responses.

	First secondary responses															
Instructor	Ø	5C	5E	5L	5M	5P	5S	5T	7C	7E	7M	7S	7U	8C	8P	8T
B1	92.02	.10	.20		.30		.80	.40		6.18						
B2	89.56	.67			.33		.74	.13		8.57						
I1	74.61	12.77	.09	.18	3.15	.09	6.65	1.05		.79	.09	.09		.44		
I2	79.53	2.16	.41		2.37	.10	2.98	1.85	.10	7.41		.31	.21	.41	.10	2.06
B1+B2	90.54	.44	.08		.32		.77	.24		7.61						
I1+I2	76.87	7.90	.24	.09	2.79	.09	4.97	1.42	.05	3.83	.05	.19	.09	.43	.05	.95
Total	84.26	3.87	.15	.04	1.46	.04	2.71	.78	.02	5.87	.02	.08	.04	.20	.02	.44

Table 13.--Distribution of second secondary responses.

	Second secondary responses							
Instructor	Ø	5C	5M	5P	5S	5T	7E	8T
B1	99.60		.10	.20		.10		
B2	99.61				.13	.13	.13	
I1	98.07	.44	.35		.44	.70		
I2	98.76		.31		.21	.51		.21

3.85 Second evaluation: (See Table 14)

Frequencies in this category were very small for both levels, the mean for all classes not exceeding about 3% of the possible frequencies. The greatest number of verbal behaviors occurring at this point constituted praise (2.42% for all classes), and the remainder was accounted for by negative feedback. It is interesting to note that - although the frequencies were small, viz. .38% - nor further response was made after the criticism, as no single tertiary response module was encountered.

3.9 Interaction between Initiator and First Response

Four groups of interactive verbal behavior were expected to occur in the FL classroom, viz. instructor-student interaction, instructor-instructor interaction; student-instructor interaction, and student-student interaction. However, only the first three did, in fact, occur.

3.91 Instructor-Student Interaction

This group of interactive verbal behaviors was the largest of the three, accounting for a total of 84.62% of all verbal behavior patterns for the four classes. The percentages varied only little between the two Intermediate classes, but considerably (by more than 30%) in the Beginning classes (See Table 15). A total of 21 initiator-response patterns was found, ranging in frequency from 15.13% of all patterns (6R-7R) to a low of .02% (4S-8T). They were the following:

3E-7E: Instructor directs students to repeat after him (without recourse to written text), and students follow the directions.

3Q-7Q: Instructor asks for prepared oral presentation, and students follow directions.

3R-7R: Instructor directs students to read; students follow directions.

3T-8T: Instructor directs students to translate; students follow directions.

3U-7U: Instructor directs students to give an oral presentation; students engage in oral practice involving manipulation of elements.

3U-8U: Instructor directs students to give an oral presentation; students follow directions by giving an unprepared oral presentation.

4C-7C and 4C-8C: Instructor asks about (cultural) content and receives either a corresponding predictable or unpredictable response.

4M-8M: Instructor asks about meaning and received a corresponding unpredictable answer.

4M-8T: Instructor asks about meaning and receives a translation in return.

4P-7P and 4P-8P: Instructor asks about pronunciation and receives a corresponding predictable or unpredictable response.

4S-7S and 4S-8S: Instructor asks about grammatical structure and receives a predictable or an unpredictable response.

4S-8T: Instructor asks about grammatical structure and receives a translation in return.

4T-8T: Instructor asks for or about a translation and receives a translation in return.

6R-7E: Instructor reads, and students repeat after him without recourse to written text.

6R-7R: Instructor reads, and students read after him.

6R-7U: Instructor reads, and the students manipulate elements in the utterance provided.

6U-7U: Instructor presents freely an utterance and students manipulate elements in the utterance provided.

Table 14.--Distribution of second evaluations.

Instructor	Second evaluations				
	Ø	1	2P	2S	2M
B1	97.37	2.33	.20	.10	
B2	98.12	1.62	.13	.13	
I1	98.60	1.13	.09	.09	.09
I2	93.93	5.25	.72	.10	
B1+B2	97.83	1.89	.16	.12	
I1+I2	96.45	3.03	.38	.09	.05
Total	97.20	2.42	.26	.10	.02

Instructors B1 and B2 were dissimilar in the use of verbal behavior in several ways: both relied heavily on reading (either direction to read or reading himself), and more than half of the patterns in this group involved reading a text or exercises by the instructor, the students or both; but B1 presented utterances for manipulation of elements, while B2 did not; B2 rather emphasized oral repetition after the instructor, broad and narrow questions about (cultural) content, grammatical structure, and prepared oral presentations. B1 appears to have emphasized presentation of information and practice with little free student participation; B2 stressed presentation of information and encouraged both limited and thoughtful responses from the students. But he also exercised strict control over the limits of student responses.

Intermediate instructors I1 and I2 differed in many respects.I1 emphasized free and controlled exercises, and unprepared oral presentations, while I2 preferred reading, translation and discussion of grammatical points. Both stressed about equally questions about (cultural) content, and both demanded about equally thoughtful student participation (more than half the responses in this group).

A comparison of the two levels reveals that Beginners' classes were characterized by mere repetition and prepared reports, reading and narrow cultural questions; Intermediate classes were characterized by translations, free manipulation of structural elements, broad content questions, but narrow grammatical questions.

Table 15.--Distribution of initiator-first response pairs.

Mode of interaction	Initiator-response pair	B1	B2	I1	I2	B1+B2	I1+I2	Total
Instructor-student interaction	3E-7E	1.62	7.23			4.99		2.70
	3Q-7Q		5.35			3.22		1.74
	3R-7R	6.37	21.03		10.19	15.18	4.68	10.36
	3T-8T			4.55	10.71		7.38	3.39
	3U-7U	9.61		28.81	7.30	3.83	18.91	10.78
	3U-8U		3.75	7.44		2.26	4.02	3.07
	4C-7C		15.74	.18	.72	9.46	.43	5.31
	4C-8C		2.41	28.72	24.18	1.45	26.63	13.04
	4M-7M		1.07	2.19		.65	1.18	.89
	4M-8T		.13			.08		.04
	4P-7P				.82		.38	.17
	4P-8P				.20		.09	.04
	4S-7S	1.52	4.35	5.17	11.33	3.22	7.99	5.42
	4S-8S	.30	2.14		2.06	1.41	.95	1.19
	4S-8T				.10		.05	.02
	4T-8T	1.92	5.42	5.25	16.46	4.03	10.41	6.97
	6R-7E	1.92				.77		.41
	6R-7R	32.86	22.97	2.36		26.90	1.28	15.13
	6R-7U	7.79	2.54			4.63		2.50
	6U-7U			5.17	.93		3.22	1.48
	Sub-total	63.90	94.11	89.84	84.98	82.08	87.61	84.62
Instructor-instructor-interaction	4C-5C		.27	3.85	2.06	.16	3.03	1.48
	4C-5M				.20		.09	.04
	4C-5T				.51		.24	.10
	4M-5M			.61			.33	.13
	4S-5S	.30		.18	.10	.12	.14	.13
	4T-5T	.10		.96	1.44	.04	1.18	.57
	6R-5C	1.21				.48		.26
	6R-5E	1.31				.52		.28
	6R-5M	2.93				1.17		.63
	6R-5S	4.25	.33			1.89		1.02
	6R-5T	22.04	.06	.18		8.83	.09	4.81
	Sub-total	32.15	.67	5.78	4.32	13.21	5.11	9.48
Student-instructor interaction	9C-5C			3.33	3.70		3.50	1.61
	9C-5T				.10		.05	.02
	9M-5E			.09			.05	.02
	9M-5M			.96	1.95		1.42	.61
	9M-5S				.10		.05	.02
	9S-5S	1.31	4.15		2.58	3.02	1.14	2.11
	9T-5C		.06			.04		.02
	9T-5M	.10			.10	.04	.05	.02
	9T-5T	2.54	1.00		2.26	1.61	1.04	1.31
	Sub-total	3.95	5.22	4.38	10.70	4.71	7.28	5.96

3.92 Instructor-Instructor Interaction (Table 15).

Instructor-Instructor interaction may occur either intentionally (as with B1 who read and then translated what he read without asking the students to do so) or unintentionally (as with I1 who asked content questions, but apparently did not receive an answer and proceeded to respond to the question herself).

For all classes together, the mean percentage of I-I interaction was about 10% of all patterns; varying from .67 for B2 to 32.15 for B1, with I1 and I2 around 5%. Because of that variance it is likely that the actual percentage is distorted by B1.

There was a total of 11 patterns in this category, viz.

4C-5C: Instructor asks a content question and answers it himself.

4C-5M: Instructor asks a content question and responds to it in terms of an explanation of meaning.

4C-5T: Instructor asks a content question and translates it.

4M-5M: Instructor asks a question about meaning and answers it himself.

4S-5S: Instructor asks a question about grammar and answers it himself.

4T-5T: Instructor asks for a translation and translates himself.

6R-5C: Instructor reads exercises or text and continues by explanation of content.

6R-5E: Instructor reads and repeats.

6R-5M: Instructor reads and continues by explanation of meaning.

6R-5S: Instructor reads and continues by explanation of grammatical structure.

6R-5T: Instructor reads and translates what he read.

Beginners' instructors had a tendency to use 6R-5T, 6R-5S, 6R-5M more often while Intermediate instructors engaged more frequently in

4C-5C and 4T-5T.

3.93 Student-Instructor Interaction (Table 15).

Student-Instructor interaction occurred when students initiated a verbal behavior cycle and the instructor responded to them. The frequency of such interaction ranged between about 4% (B1) and 11% (I2); the mean for Beginners was 4.71% and for Intermediates 7.28% of all patterns, indicating that students in Intermediate classes initiated more often than did their peers in the Beginning classes. A total of 9 patterns occurred in this group:

9C-5C: Student asks for content explanation and receives such from the instructor.

9C-5T: Student asks for cultural explanation and receives a translation.

9M-5E: Student asks for explanation of meaning, and instructor repeats.

9M-5M: Student asks for explanation of meaning and receives the appropriate response.

9M-5S: Student asks for explanation of meaning and receives a grammatical explanation.

9S-5S: Student asks for grammatical information and receives the appropriate response.

9T-5M: Student asks for translation and receives an explanation of meaning as a response.

9T-5T: Student asks for translation, and instructor translates.

Four patterns of the nine are clearly the most frequent and meaningful, viz. 9C-5C, 9M-5M, 9S-5S and 9T-5T which account for 5.76% of 5.90% of the total frequencies.

Beginners and Intermediate classes differ insofar as the former engaged more often in 9S-5S and 9T-5T than did the latter; on the other hand, Intermediates emphasized more frequently 9C-5C and 9M-5M.

4.0 Summary and Conclusions

The working assumptions underlying this study appear to have received some substantiation through the data obtained: utterances used by instructors or students in a FL classroom may be called "verbal behavior" with justification as they occur in the interaction with regularity and can consequently be grouped into patterns.

The intrinsic arrangement of all patterns is the basic initiate-respond-evaluate cycle, and all patterns of verbal behavior can be classified into one or the other of the cycle derivatives. While some patterns occurred hundreds of times, others occurred only once or twice; the former apparently belong to an instructor's behavioral repertoire, whereas it did not become clear with the less frequent patterns whether they were random combinations of types of utterances without apparent rationale to link them together or whether they represented verbal efforts directed to very specific but infrequent objectives. Some evidence - although not very conclusive - concerning this question can be found in the rate of decrease of different patterns in the reduction process which was designed to eliminate atypical patterns; the expectation that experienced instructors would have fewer such "random" strings of utterances (as shown by a larger deceleration in the growth rate of the pattern identity ratio) was confirmed but only very tentatively indeed. Therefore the problem of nature and purpose of infrequent patterns has to remain unsolved at this point; in any case it attests to the complexity of the FL teaching/learning situation and to a large amount of flexibility in classroom interaction.

There were never more than two responses in a response module and never more than two response modules following one initiator. Three structural types (X/X--/---/, X/X-X/---/, and X/X-X/X--/) accounted for over 90% of all patterns, and only about 10% of all patterns consisted of more than an initiator and the first response module.

In the primary module, student response verbal behavior with evaluation accounted for more than half of all verbal behavior, responses without evaluation for another 27%. The remaining 21% were spread over another 26 verbal behavior pattern types.

In the secondary response module, about half of all patterns consisted of additional instructor-elaboration of primary responses: another 40% were accounted for by additional student response behavior with or without subsequent evaluation.

Because of the great variety in content combinations of the various patterns, no predictable and lawful sequentiality was found, i.e. it was impossible to predict with any significant measure of accuracy the type of verbal behavior which would follow a given type of utterance (except for initiator and first response sequences); some responses would be followed by no feedback in some cases, by praise in others, and by criticism of different kinds in others yet. Although this result was as expected, a systematic search for predictive relationships was undertaken, but did not turn up any useful results. Consequently, it was decided to focus rather on the interaction between initiator and first response in the primary response module and to discuss the information contained in subsequent slots in terms of non-sequential patterns.

Three kinds of initiator-first response verbal interaction were found: Instructor-Student, Instructor-Instructor, Student-Instuctor. The first was by far the most frequent (accounting for about 85% of all patterns). 21 initiator-response patterns were found, but only four appear to have been of major significance, accounting for just under half of all occurrences: 6R-7R, 4C-8C, 3U-7U, 3R-7R. A number of differences in initiator-response patterns was found among the various classes, but it may be concluded that the Beginners' classes tended to be characterized by repetition, prepared reports, reading and narrow content questioning; intermediate classes, on the other hand, had a profile of translations, free manipulation of grammatical elements, broad content questions, but narrow grammatical questions.

Intentional or unintentional instructor-instructor interaction occurred about 5% of the time in Intermediate classes, but about 30% of the time in one of the Beginners' classes. The mean was about 10% of all patterns. 11 interaction patterns were found; only one appears to be of major significance (6R-5T). In general, Beginners' instructors had a tendency to use 6R-5T, 6R-5S, 6R-5M (intentional interaction with self), while Intermediates engaged more frequently in unintentional instructor-instructor interaction (4C-5C, 4T-5T).

Student-instructor interaction was more frequent in Intermediate classes where students initiated about 7% of all patterns compared with about 5% in Beginners' classes. 9 patterns were observed to occur, but Beginners classes are characterized by 9S-5S and 9T-5T sequences, while Intermediates emphasized 9C-5C and 9M-5M patterns.

Although the occurrence of most verbal behaviors was, in general, not limited to one particular class or level, sufficient evidence did accumulate for the generalization that, despite overlaps, intra-level similarities in verbal behaviors were greater than inter-level similarities; it was, of course, to be expected that some types of verbal behavior would occur at both levels, but in characteristically differing amounts.

A slight difference between the two levels was also found in the amount of interaction: on the average one verbal behavior move was observed every six seconds in the Beginners' classes and every nine seconds in Intermediate classes; it is clear that FL instruction is based on the use of verbal behavior patterns which promote frequency of interaction.

Of the three types of moves, responses by instructors and students accounted for one half of all verbal behaviors, and initiatory and evaluative verbal behavior for the other half. Students produced about one third of all verbal behavior; they initiated only 10% as many sequences as did the instructors; they never evaluated and never interacted with each other.

Instructors on the Intermediate level gave explicitly verbal feedback to about 70% of the student responses, Beginners' instructors to about 50%. While negative feedback was about equally distributed, instructors on the Beginners' level praised about 20%, those on the Intermediate level about 50% of their students' responses.

As a concluding comment it should be remembered that the design itself of an observation instrument determines to a large extent the

results of an observation in the way in which the observation categories were conceptualized. This instrument was specifically devised for functional verbal behavior in the FL teaching/learning situation: it does not claim to be capable of specifying all components and dimensions of the interaction process: other instruments will be more suitable for analyses of levels of thinking, cognitive development, socio-emotional climate, and the like. Similarly, other researchers may want to reinterpret or revise some of the categories used here depending on their purposes. In any case, it is hoped that the results obtained in this study enable researchers in the field to direct conceptual and experimental attention to non-evaluative, quantitative analyses of the FL interaction process involved in teaching/learning a foreign language.

REFERENCES

Bellack, Arno A., and Joel R. Davitz, in collaboration with Herbert M. Kliebard, Ronald T. Hyman, and Frank L. Smith Jr., The Language of the Classroom. In Ronald T. Hyman (Ed.) Teaching: Vantage Points for Study. Philadelphia: J.B. Lippincott, 1968, pp. 84-97.

Flanders, Ned. A. Analyzing Teacher Behavior. Reading, Mass.: Addison-Wesley, 1970.

Hyman, Ronald T., The Flow of Teaching.In Ronald T. Hyman (Ed.) Teaching: Vantage Points for Study. Philadelphia: J.N. Lippincott, 1968, pp. 98-100.

McArdle, Richard J., and C. Edward Scebold, Report on Workshop Seminar Held at the University of Nebraska, Summer 1968. MLJ, 1968, 52, 503-503.

Moskowitz, Gertrude, The Effects of Training Foreign Language Teachers in Interaction Analysis. FLA, 1968, 1, 218-235.

Moskowitz, Gertrude, Interaction Analysis - A New Modern Language for Supervisors. FLA, 1971, 5, 211-221.

Nearhoof, Orrin, Teacher Pupil Interaction in the Foreign Language Classroom: A Technique for Self-Evaluation. In Frank M. Grittner (Ed.) Teaching Foreign Languages. New York: Harper, 1969, pp. 328-340.

Prokop, Manfred, Sequential Analysis of Verbal Behavior Patterns in a Flanders Interaction Analysis Matrix. Classroom Interaction Newslette 1969, 4(2), 53-59.

Rothfarb, Sylvia, Teacher-Pupil Interaction in the FLES Class. Hispania, 1970, 53, 256-260.

Simon, Anita, and E. Gil Boyer, Mirrors for Behavior. Philadelphia: Research for Better Schools, 1967.

Simon, Anita, and E.Gil Boyer, Mirrors for Behavior II. Philadelphia: Research for Better Schools, 1970.

Smith, B. Othanel, and Milton Meux, A Study of the Logic of Teaching. In Ronald T. Hyman (Ed.) Teaching: Vantage Points for Study. Philadelphia: J.B. Lippincott, 1968, pp. 101-117.

Wragg, E.C. Interaction Analysis in the Foreign Language Classroom, MLJ, 1970, 54, 116-120.

APPENDIX A

Observation Categories

Code	Operational Definition
1	Positive feedback: Instructor explicitly praises or encourages student verbal behavior or praises by implication (e.g. saying "um-hum")
2	Negative feedback: Statements intended to change student verbal behavior from non-acceptable to acceptable pattern.
2I	Instructor criticizes intonation
2P	Instructor criticizes pronunciation
2S	Instructor criticizes grammatical structure
2M	Instructor criticizes meaning of word or phrase
2L	Instructor criticizes spelling
2C	Instructor criticizes (cultural) content
2T	Instructor criticizes translation
3	Directions: Instructor gives directions or commands with which the student is expected to comply.
3I	Instructor gives directions for the proper use of intonation
3P	Instructor gives directions for the proper use of pronunciation
3S	Instructor gives directions for the proper use of structure
3M	Instructor gives directions for proper meaning
3L	Instructor gives directions for proper spelling
3C	Instructor gives directions for proper use of (cultural) content
3T	Instructor directs student to translate
3R	Instructor directs student to read
3W	Instructor directs student to write
3Q	Instructor directs student to give a prepared oral presentation
3U	Instructor directs student to give an unprepared oral presentation involving manipulation of elements
3E	Instructor directs student to repeat an utterance
4	Questions: Instructor asks a question for or about content or procedure with the intent that a student respond.
4I	Instructor asks about intonation
4P	Instructor asks about pronunciation
4S	Instructor asks about grammatical structure
4M	Instructor asks about meaning of word or phrase
4L	Instructor asks about spelling
4C	Instructor asks about (cultural) content
4T	Instructor asks about translation

5	Instructor response: Instructor reacts, by providing information, to a statement or question initiated by a student or by himself.
5I	Instructor responds by providing information about intonation
5P	Instructor responds by providing information about pronunciation
5S	Instructor responds by providing information about structure
5M	Instructor responds by providing information about meaning
5L	Instructor responds by providing information about spelling
5C	Instructor responds by providing information about content
5T	Instructor responds by translation
5E	Instructor responds by repetition
6	Initiation of information by the instructor: Instructor initiates a verbal behavior cycle by providing information about content or procedure; rhetorical questions are included.
6I	Instructor provides information about intonation
6P	Instructor provides information about pronunciation
6S	Instructor provides information about grammatical structure
6M	Instructor provides information about meaning of word or phrase
6L	Instructor provides information about spelling
6C	Instructor provides information about (cultural) content
6T	Instructor provides information by translation
6R	Instructor reads text or exercises
6U	Instructor initiates statements one or more of whose elements are to be manipulated
7	Predictable student response: Student responds within circumscribed limits to instructor or to another student.
7I	Student responds predictably with regard to intonation
7P	Student responds predictably with regard to pronunciation
7S	Student responds predictably with regard to grammatical structure
7M	Student responds predictably with regard to meaning
7L	Student responds predictably with regard to spelling
7C	Student responds predictably with regard to (cultural) content
7R	Student reads
7Q	Student gives a prepared oral presentation on a topic set by the Instructor
7J	Student responds by circumscribed manipulation of elements of an utterance
7E	Student repeats or imitates
8	Unpredictable student response: Student responds freely within a broad context to instructor or to another student.
8I	Student responds unpredictably with regard to intonation
8P	Student responds unpredictably with regard to pronunciation
8S	Student responds unpredictably with regard to structure
8M	Student responds unpredictably with regard to meaning

8L Student responds unpredictably with regard to spelling
8C Student responds unpredictably with regard to (cultural) conten
8T Student responds by translation
8U Student gives unprepared oral presentation where no exact limits were set

9 Initiation of information by student: Student initiates statements or questions about content or procedure.

9I Student asks or makes a statement about intonation
9P Student asks or makes a statement about pronunciation
9S Student asks or makes a statement about structure
9M Student asks or makes a statement about meaning
9L Student asks or makes a statement about spelling
9C Student asks or makes a statement about (cultural) content
9T Student asks for translation
9E Student asks for repetition

Supplementary prefixes and suffixes:

G,E are prefixed to each code denoting the language used
Z is suffixed to the code to denote choral response
A is suffixed to the code to denote student response alternation in a series of verbal behavior cycles where different students respond to the same initiator.

Additional clarification of some verbal behaviors which may be difficult to code:

3Q e.g. directing a student to report on an assigned topic, summarizing a story or the content of a lesson.

3U e.g. directing a student to manipulate one or more of the phonological, sytactical or structural elements of an utterance; directing a student to give a free oral report.

3E e.g. directing a student to repeat the instructor's utterance (as in a demonstration drill) or, simply, asking for repetition of corrected utterance.

6U e.g. freely, without recourse to text, providing an utterance whose elements the student is expected to manipulate (as in a creative drill).

7Q e.g. the student gives a report on an assigned topic or summarizes content.

7U e.g. the student manipulates one or more components of an utterance provided by the instructor from the textbook or freely.

7E e.g. repetition after instructor, or repetition of corrected utterance.

8U e.g. student gives impromptu oral presentation.

6R, 7R e.g. instructor or students read continuous text or exercises.

APPENDIX B

Table 1.--Mean frequencies of verbal behavior codes for B1 (N=2695).

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	6.49												6.49
2	.22		1.78	3.60	.19		.04	.15					5.97
3	1.45			.07				.07	2.15		.07	1.22	.93	5.97
4	.93			.96	.11		.22	2.34					4.56
5	.30		.26	3.45	2.93	.19	.74	9.76					.93	18.55
6	.15		.04	.67	.11		.56	.30	26.05				27.87
7				.67	.04		.04		14.25		.30	6.20	3.45	24.94
8				.19			.04	2.30					2.52
9	.30		.11	.78	.56	.19	.07	1.11					3.12
Total	9.83	0	2.19	10.39	3.93	.37	1.71	16.03	42.45	0	.37	7.42	5.31	100 %

Table 2.-- Mean frequencies of verbal behavior codes for B2 (N=3767).

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	13.54												13.54
2		2.57	5.36	.19		.24	.03						8.39
3	.82		.19			.11		.90		.45	.08	2.63	5.18
4	.08		1.75	.77	.03	4.75	2.47						9.85
5		.03	3.00	.64		.69	.58					.03	4.96
6	.05	.03	1.35	.32		.61	.13	9.85			.40		12.74
7			2.55	.80	.03	6.40		17.55		[illegible]	.98	6.53	36.93
8			.82			.80	2.68				1.43		5.73
9			1.81	.29		.05	.45					.08	2.68
Total	14.49	0 2.63	16.83	3.00	.05	13.64	6.34	28.30	0	2.55	2.89	9.26	100 %

Table 3.--Mean frequencies of verbal behavior codes for I1 (N=3553).

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	22.40												22.4o
2	.51		.79	2.90	.53	.03	.31	.23					5.29
3	.84						.68	.14		.06	3.12	.11	4.95
4	.79			1.10	.99	.11	9.88	1.91					14.78
5	.28		.06	3.29	2.03	.11	7.85	1.46				.06	15.14
6	.37			.17			1.69		.82		1.04		4.08
7	.03			1.63	.82	.08	.06		.99	.23	11.03	.51	15.37
8	.31					.03	9.63	3.21			2.25		15.42
9	.31		.03	.31	.48		1.24	.17				.03	2.56
Total	25.84	0	.87	9.40	4.84	.37	30.65	7.66	1.94	0	.28	17.45	.70	100 %

Table 4.-- Mean frequencies of verbal behavior codes for I2 (N=3304).

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	15.56												15.56
2	.88		3.06	2.69	.58		.24	.91					8.35
3	1.18		.03	.30		.03	.03	2.48	1.12		1.30	.30	6.78
4	1.42		.33	2.97	.09	.03	8.50	4.69					18.04
5	.88		.15	2.36	2.33		3.42	2.66				.18	11.99
6	.73			.61	.09		.67	.24	1.21		.27		3.81
7			.30	3.54	.03	.06	.24		3.09		2.42	2.72	12.41
8	.97		.09	.64			7.51	9.02			.03		18.25
9	.91		.03	.88	.64		1.45	.82				.09	4.81
Total	22.52	0	4.00	13.98	3.75	.12	22.06	20.82	5.42	0	0	4.03	3.30	100%

Table 5.-- Mean frequencies of verbal behavior codes for the Beginners' classes (N=6462)

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	10.60												10.60
2	.09		2.24	4.63	.19		.15	.08					7.38
3	1.08			.14			.06	.03	1.42		.29	.56	1.92	5.51
4	.43			1.42	.50	.02	2.86	2.41					7.64
5	.12		.12	3.19	1.59	.08	.71	4.41				.40	10.63
6	.09		.03	1.07	.23		.59	.20	16.60		.23		19.05
7				1.76	.48	.02	3.74		16.17		1.35	3.16	5.25	31.93
8				.56			.48	2.52				.84		4.39
9	.12		.05	1.38	.40	.08	.06	.73					.05	2.86
Total	12.55	0	2.45	14.14	3.39	.19	8.67	10.38	34.20	0	1.64	4.78	7.61	100 %

Table 6.-- Mean frequencies of verbal behavior codes for the Intermediate classes (N=6857).

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	19.10												19.10
2	.69		1.88	2.80	.55	.01	.28	.55					6.77
3	1.01		.01	.15		.01	.01	1.55	.61		.03	2.25	.20	5.83
4	1.09		.16	2.00	.55	.07	9.22	3.25					16.35
5	.57		.10	2.84	2.17	.06	5.72	2.04					.12	13.62
6	.54			.38	.04		1.20	.12	1.01			.67		3.95
7	.01		.15	2.55	.44	.07	.15		2.00		.12	6.88	1.58	13.94
8	.63		.04	.31		.01	8.60	6.01				1.18		16.79
9	.60		.03	.58	.55		1.34	.48					.06	3.65
Total	24.24	0	2.38	11.61	4.32	.25	26.51	14.00	3.62	0	.15	10.98	1.95	100 %

Table 7.-- Mean frequencies of verbal behavior codes for all classes (N=13.319).

	I	P	S	M	L	C	T	R	W	Q	U	E	Total
1	14.98												14.98
2	.40		2.06	3.69	.38	.01	.22	.32					7.07
3	1.04		.01	.14		.01	.04	.81	1.01		.16	1.43	1.04	5.68
4	.77		.08	1.72	.53	.05	6.13	2.85					12.13
5	.35		.11	3.01	1.89	.07	3.29	3.19					.26	12.17
6	.32		.02	.71	.14		.90	.16	8.57			.46		11.28
7	.01		.08	2.17	.46	.05	1.89		8.87		.71	5.08	3.36	22.67
8	.32		.02	.43		.01	4.66	4.32				1.01		10.77
9	.37		.04	.97	.48	.04	.72	.60					.05	3.27
Total	18.57	0	2.41	12.84	3.87	.22	17.85	12.25	18.45	0	.87	7.97	4.70	100 %

Table 8.--Illustration of a complete set of verbal behavior patterns initiated by 3Q (at Step 1 and Step 3 of reduction process)

Frequencies					Primary response module			Secondary response module		
B1	B2	I1	I2	Initiator	R1	R2	Ev1	R1	R2	Ev2
	7			3Q	7Q					
2	5	7		3Q	7Q		1			
	1			3Q	7Q		2M	5T		
	2			3Q	7Q		2M	7E		
	1			3Q	7Q		2M	7E		1
	1			3Q	7Q		2P			
	8			3Q	7Q		2P	7E		
	2			3Q	7Q		2P	7E		1
3	21			3Q	7Q		2S			
	1			3Q	7Q		2S	5S	7E	
1				3Q	7Q		2S	5T		
	18	1		3Q	7Q		2S	7E		
	2			3Q	7Q		2S	7E		1
	1			3Q	7Q		2S	7E	5S	
	2			3Q	7Q		2S	7E		2S
	1			3Q	7Q	5M				
	7			3Q	7Q	5S				
1				3Q	7Q	5E	2S			

Initiator	Primary response module			Secondary response module		
	R1	R2	Ev1	R1	R2	Ev2
3Q(95)	7Q (95)	Ø (86) 5M (1) 5S (7) 5E (1)	Ø (15) 1 (14) 2M(4) 2P(11) 2S(51)	Ø (55) 5S (1) 5T (2) 7E (37)	Ø (93) 5S (1) 7E (1)	Ø (88) 1 (5) 2S (2)